SHMIDT, N.V.; DONTSOV, P.M.; KRASIL'NIKOV, Z.N.; SHVACH, Ye.N.; OVSYANNIKOV, I.I.

Heat treated carbon steel for shipbuilding. Sudostroenie 28 no.9:44-48 S '62. (MIRA 15:10)
(Plates, Iron and steel—Testing) (Shipbuilding)

SHMIDT, N. YE.

USSR/Chemistry - Platinum Compounds, Amino
Chemistry - Heat Capacity

Sep 48

"Heat Capacity of Dispersed Isomers of Platinum Diamino Chloride," Acad I. I. Chernyayev, V. A. Sokolov, N. Ye. Shmidt, G. S. Muraveyskaya, Inst Gen and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXII, No 2

Studied heat capacities of cis- and trans- isomers of platinum diamino-dichloride. Expected heat capacity of Peyrone chloride to be greater than that of the chloride of Reiset's second base (the trans-isomer), for the temperature range between absolute zero and temperature of isomerization. However, they were identical. Concludes that, for any temperature, difference in isobaric potentials of these substances, equal to difference of their total energy, is fully determined by the heating effect of the isomerization reaction. Submitted 13 Jul 48.

PA 36/49T8

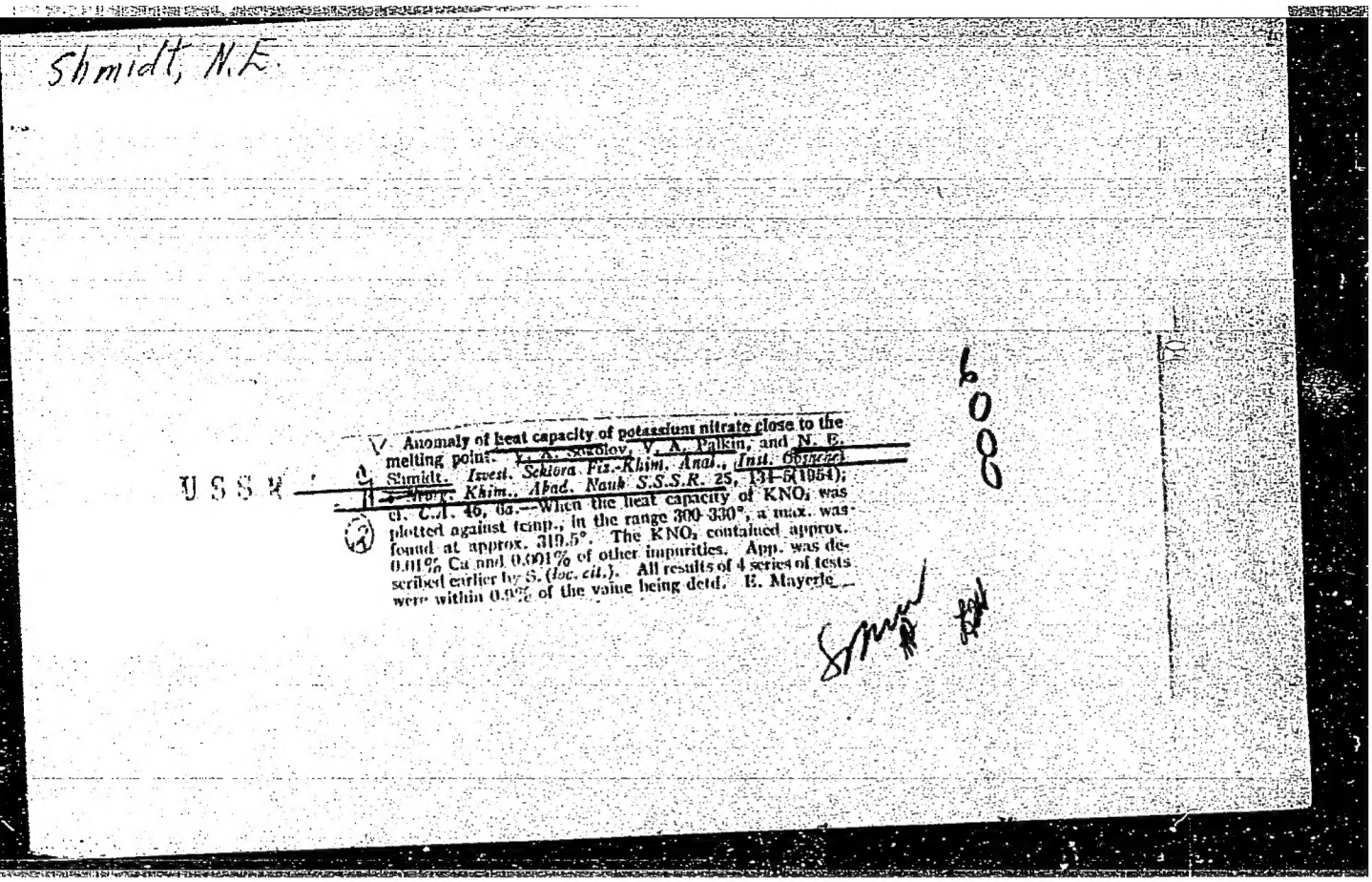
CA

Thermodynamics of transformations of the second order. V. A. Bokiĭov and N. K. Shmidt. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 19, 281–7(1949).—Phase transitions of the 2nd order can be regarded as nonvariant processes occurring under conditions of entropy equality of the coexisting phases, $\Delta S = 0$ or monovariant processes occurring in a one-component system with 3 phases, $\Delta S \neq 0$. This appears to contradict the phase rule. Ba titanate is an example of anomalous heat capacity having a smooth max. Such anomaly precludes the possibility of phase transition with small isothermal heat absorption which goes unobserved because of inherent exptl. errors. The apparent contradiction between the behavior of Ba titanate and phase rule is explicable by the existence of a parameter other than p and T, namely the elec. field of spontaneous polarization. Considering Ba titanate as a pseudobinary system, the relation between concn. of the pseudocomponents and temp. can be established by integrating the anomalous part of the heat capacity. M. Hoseh

SHMIDT, N.Ye.

Heat exchange of automatically controlled calorimeters. Izv. Sekt.fiz.-khim.anal. 23:91-100 '53. (MLRA 7:1)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova Akademii nauk SSSR. (Calorimeters and calorimetry)



Shmidt, M.E.

USSR

Anomaly of heat capacity of potassium nitrate close to the melting point. V. A. Sozolov, V. A. Falkin, and N. E. Shmidt. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei Neorg. Khim., Akad. Nauk S.S.S.R.* 25, 131–6(1954); cf. *C.A.* 46, 6a.—When the heat capacity of KNO_3 was plotted against temp., in the range 300–330°, a max. was found at approx. 319.5°. The KNO_3 contained approx. 0.01% Ca and 0.001% of other impurities. App. was described earlier by S. (*loc. cit.*). All results of 4 series of tests were within 0.9% of the value being detd. E. Mayerle

608

Shmidt, N. E.

3

Heat of conversion of potassium palmitate near 63°. N. E. Shmidt. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 25, 381–6 (1954).—The sp. heat of K palmitate in the stable state at temps. of 37–84° was measured. Max. value in field of conversion is 2.6 cal./g. degree at 63°. Conversion of K palmitate is of the 2nd order. The increment of enthalpy at temps. 54–67.5° is 12.84 cal./g. degree or 3770 cal./mol. Integration of the anomalous part of the sp. heat at 54–67.5° gives for the heat of conversion 5.46 cal./g. degree or 1604 cal./mol. Eurilla Mavrick

Inst. Gen. & Inorg. Chem. im. N. S. Kurnakov, AS USSR

SHMIDT, N.E. - I

ARKHANGEL'SKIY, P.Ye., inzhener; ARKHIPOV, P.P., inzhener; VAS'KOV, M.P., agronom; ZHMUDSKIY, D.A., arkhitektor; IVANOV, A.P., arkhitektor; KIBIREV, S.F., arkhitektor; KRYLOV, N.V., inzhener-arkhitektor; KULAKOV, D.V., arkhitektor; MARTYNOV, P.F., inzhener; NIKIFOROV, V.S., inzhener; NOSKOV, B.G., arkhitektor; PETUKHOV, B.V., kandidat tekhnicheskikh nauk; RUDANOV, M.L., kandidat tekhnicheskikh nauk; RYAZANOV, V.S., kandidat arkhitektury; SOKHRANICHEV, N.S., inzhener-arkhitektor; TARASOV, D.I., arkhitektor; SHMIDT, N.E., kandidat arkhitektury; KHOMUTOV, Ye.Ye., arkhitektor; VOL'FOVSKAYA, V.N., redaktor; FEDOTOVA, A. F., tekhnicheskiy redaktor.

[Handbook on the construction of farm buildings] Spravochnik po sel'skokhozyaistvennomu stroitel'stvu. Avtorskii kollektiv: P.E.Arkhangel'skii i dr., avtor-sost. N.V.Krylov. Moskva, Gos.izd-vo sel'khoz.lit-ry. Vol.3 1955. 843 p. (Farm buildings) (MLRA 9:6)

Schmidt, N. E.

Specific heat and heat of fusion of sodium nitrate. V. A. Sokolov and N. E. Schmidt. *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 26, 123–31(1953).—C_p of $NaNO_3$ in the interval 40–387° was detd. and is presented in a graph. The temp. of fusion was found to be 306.4 ± 0.1° and ΔH_f = 3596 ± 8 cal./mol. Thermodynamic functions H, S, and $H - TS$ were computed.

V. N. Bednarski

Send (1)

Inst. Gen. & Inorg. Chem. im. N. S. Kurnakov, AS USSR

BERGMAN, A.G.; RASSONSKAYA, I.S.; SHMIDT, N.Ye.

Specific weights and viscosity of the ternary system of sodium, potassium, and calcium nitrates. Izv.Sekt.fiz.-khim.anal. 26:156-163 '55. (MLRA 8:9)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR.
(Nitrates) (Systems (Chemistry))

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physicochemical analysis. Phase transitions B-8

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11137

Author : Sokolov V.A., Shmidt N.Ye.
Inst : Institute of General and Inorganic Chemistry, Academy of Sciences USSR
Title : Heat Capacity, Heat of Transformation and Heat of Fusion of Potassium Nitrate

Orig Pub : Izv. Sektora fiz.-khim. analiza IONKh AN SSSR, 1956, 27, 217-222

Abstract : By the method of periodic heating (RZhKhim, 1956, 6358) in the interval 32-394° C, heat capacity C_p of KNO_3 was determined (130 points). Determined were temperature of transformation (127.9 - 0.1°C), heat of transformation (1218 - 5 cal/mole), point of fusion (334.3 ± 0.1°C) and heat of fusion (2300 ± 5 cal/mole). In the interval 25 - 670°K were calculated and tabulated the values of enthalpy, entropy and isobaric potential; $S_{298.16}$ = 31.72 entropy units.

Card 1/1

Shmidt, N. Ye.

S/078/60/005/008/001/018
B004/B052

AUTHORS: Shmidt, N. Ye., Sokolov, V. A.

TITLE: Adiabatic Calorimeter for the Determination of the Actual Specific Heats of Substances of Low Thermal Conductivity in the Range of 30-750°. The Specific Heat of Corundum

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 8, pp. 1641-1649

TEXT: The authors based their work upon a paper (Ref. 1) by the author mentioned second who in 1948 designed a calorimeter for temperatures ranging between 30 and 400°C. This calorimeter could not be used for higher temperatures, since its heat exchange then became too high. The authors discuss the drop in temperature in substances of low thermal conductivity, and describe a newly designed calorimeter for temperatures between 25° and 750°C. The drop in temperature is kept low by way of the small volume of the apparatus, and the low loss of heat along the conducting wires. Fig. 1 shows the cross section of an apparatus consisting of the actual calorimeter, three shieldings for guaranteeing the adiabatic

Card 1/4

Adiabatic Calorimeter for the Determination of the Actual Specific Heats of Substances of Low Thermal Conductivity in the Range of 30-750°. The Specific Heat of Corundum

S/078/60/005/008/001/018
B004/B052

condition, and a number of insulating covers made of stainless steel and aluminum. The actual calorimeter is shown in Fig. 2; as compared to that of 1948, it has remained unchanged. Heater and resistance thermometer are similar to P. G. Strelkov's standard thermometer (Ref. 24). The three shieldings are described in detail. They are cylindrical and contain heating elements made of nichrome bands (Fig. 5) wound round a quartz frame work; they are regulated by means of PtRh (10%) - AuPd (40%) thermocouples. The shielding layers consist of 0.1 mm platinum sheets, since silver proved to be unstable at temperatures over 720°C (Fig. 3), and ЭЯИТ (EYaIT) steel delays the temperature balance (Fig. 4). Fig. 6 shows the circuit for the temperature regulation of the shieldings. The temperature is taken by means of a platinum resistance thermometer and a КЛ-48Ж (KL-48) potentiometer. The platinum resistance thermometer was calibrated at the triple point of water, the boiling point of water, and, contrasting with the international scale, at the melting point of antimony instead of the boiling point of sulfur. This deviation was compensated by comparison with the

Card 2/4

standard resistance thermometer No. 124 of the laboratory. After the determination of the heat value of the calorimeter, the stability of the thermometer indications was checked by measurement of the transformation point of $Na_2SO_4 \cdot 10H_2O$ (Table 1), and transformation and melting points of KNO_3. The electric work was determined by means of a Raps compensator of the workshops of the Vsesoyuznyy institut mer i standartov (All-Union Institute of Measures and Standards), and a second counter. In the range of 300° to 1000°K, the heat value of the calorimeter fluctuates by 5% (Fig. 7). The temperature drop in the calorimeter was found to be at the transformation point 117.9°C of KNO_3. In slow processes, the temperature threshold is not reached. The latter was computed according to M. A. Reshetnikov's equation (Ref. 29), the applicability of which has been examined in a previous paper (Ref. 22). Finally, the determination of the specific heat of two samples of synthetic corundum is described, and their spectroscopic data determined by V. L. Ginzburg, are given. Table 2 shows that the scattering of the measured values does not exceed ± 0.5%, and the values

Adiabatic Calorimeter for the Determination of the Actual Specific Heats of Substances of Low Thermal Conductivity in the Range of 30-750°. The Specific Heat of Corundum

S/078/60/005/008/001/018
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are in good agreement with the published data; at 1000°K, however, they are higher than those of the US National Bureau of Standards (Fig. 8) by approximately 0.4%. There are 8 figures, 2 tables, and 31 references: 14 Soviet, 7 US, 5 British, 1 Canadian, and 4 German.

SUBMITTED: February 12, 1960

Card 4/4

SHMILT, N.Ye.; SOKOLOV, V.A.

Heat capacity and transformations of sodium sulfate. Zhur.neorg.-khim., 6 no.12:2613-2622 D '61. (MIRA 14:12)
(Sodium sulfate)

SHMIDT, N.Ye. (Moscow)

Certain problems involved in the determination of the transition temperature of a substance in a calorimeter. Zhur.fiz.khim. 35 no.12:2614-2617 D '61. (MIRA 14:12)

1. Akademiya nauk SSSR, Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova.
(Calorimetry)

L 53826-65 EWT(d)/EWT(l)/EEC-4/EEC(t)/T/FCS(k)/FSS-2 Pn-4/Pp-4/Pac-4/
Pi-4/Pj-4/Pl-4 WR

ACCESSION NR: AP5013922 UR/0107/65/000/005/0063/0063

AUTHOR: Shmidt, O.

TITLE: Short-wave directional antenna for 5.5--18.5 Mc

SOURCE: Radio, no. 5, 1965, 63

TOPIC TAGS: short wave antenna, hf antenna

ABSTRACT: The construction of a new 78-m high, 500-t two-array antenna in Nauen near Berlin for "Radio-DDR" broadcasting is briefly reported. The main-lobe direction is controllable in both vertical and horizontal planes; the two arrays form a 50° angle. The dipoles are supported at voltage nodes by noninsulated structural members. It takes 6 minutes to set the antenna in any specified direction by automatic programmed control. The antenna is supplied via a coaxial aluminum waveguide which has a pulsation of 1.1, an antenuation of 0.15 db per 100 m, and a frequency of 30 Mc. Orig. art. has: 1 figure. [03]

ASSOCIATION: none

Card 1/2 Submitted: 00 AP5013922

SHMIDT, O.I.

Tertiary sea urchins of Central Asia. Trudy VNIGRI no.73:93-101 '53. (MLRA 7:7)
(Asia, Central--Sea urchins, Fossil) (Sea urchins, Fossil--Asia, Central)

SHMIDT, O.I.; SIMAKOV, S.N.

Upper Cretaceous echinoidea of southeastern Central Asia. Trudy VNIGRI no.66:5-92 '53. (MLRA 6:5)
(Asia, Central--Sea urchins, Fossil)

IL'IN, V.D.; BELYAKOVA, G.M.; SHMIDT, O.I.

Sediments of the Danian stage in the lower Amu Darya River.
Geol.nefti 2 no.10:46-47 O '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologo-razvedochnyy neftyanoy institut.
(Amu Darya Valley--Geology, Stratigraphic)

SHMIDT, O.I.; VERESHCHAGIN, V.N.

Upper Cretaceous stratigraphy and fauna of sea urchins in the northern Sikhote-Alin'. Trudy VNIGRI no.154:226-230 '60.
(MIRA 13:9)
(Sikhote-Alin' Range--Sea urchins, Fossil)
(Paleontology, Stratigraphic)

SHMIDT, O.I.

Late Cretaceous sea urchins of the Tajic Depression. Trudy VNIGRI no.196. Paleont.sbor. no.3:277-323 '62. (MIRA 16:4)
(Tajik Depression--Sea urchins, Fossil)

SHMIDT, O.Yu.; SHEVELEV, M.I.

Bolsheviks at the North Pole. Let. Sev. 4:6-17 '64.

(MIRA 18:3)

SHMIDT, P.Yu.; KORZHUYEV, P.A., doktor biologicheskikh nauk, redaktor; STRELKOV, A.A., redaktor; SMIRNOVA, A.V., tekhnicheskiy redaktor

[Anabiosis] Anabioz. 4-oe izd. Moskva, Izd-vo Akad. nauk SSSR, 1955. 435 p. (MLRA 8:7)
(Resuscitation)

GLUKHOV, V.; SHMIDT, R.[Smidts, R.]

Method for analyzing the operation of a compounding transformer with a double winding. Vestis Latv ak no.10:65-72 '61.

1. Akademiya nauk Latviyskoy SSR, Institut energetiki i elektrotekhniki.

(Electric transformers)

GLUKHOV, V.; SMIDT, R. [Smidts, R.]

Static characteristics of double-winding compounding transformers. Vestis Latv ak no.6:59-65 '62.

1. Institut energetiki i elektrotekhniki AN Latviyskoy SSR.

GLUKHOV, V.; SHMIDT, R.[Smidts, R.]

Determination of the output characteristics of a compounding three-winding transformer. Izv. AN Latv. SSR no.10:75-86 '62. (MIRA 16:1)

1. Institut energetiki AN Latviyskoy SSR.

(Electric transformers)

SHMIDT, R.A.

Improving and utilizing Solonetz soils. Zemledelie 6 no.10: 11-19 O '58. (MIRA 11:11)

1. Glavnyy agronom Novosibirskogo oblastnogo upravleniya sel'skogo khozyaystva.

(Solonetz soils)

16(1)

AUTHORS: Faddeyev,D.K., and Shmidt,R.A. SOV/43-59-19-3/14

TITLE: Conditions of Field Plunging in Case of a Cyclic Normal Subgroup of the Eighth Order

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1959, Nr 19(4), pp 36-42 (USSR)

ABSTRACT: Given a field k_o with the characteristic $\neq 2$ and its normal algebraic extension k with the Galois group F. Furthermore a group G and its homomorphic mapping onto F, where the kernel of homomorphy N is a cyclic group of eighth order. The authors investigate the plunging of field k into the field K with the group G over k_o for which the natural homomorphism of the group of K onto the group of k is identical with the given homomorphism of G onto F. The necessary conditions are given in [Ref 1,2]. The authors obtain an additional condition which, together with those ones formulated in [Ref 1,2], is necessary and sufficient for the desired imbedding.
There are 4 references, 2 of which are Soviet, 1 German, and 1 Japanese.

SUBMITTED: July 1, 1958

Card 1/1

Kur[illegible] [illegible]. Nauch. red.: Shamin, R.G., inzh.

[illegible] improving technical and economic performance indices of [illegible] bit boring machines in strip mining. Gor. zhur. no.9:28-31 S '65. (MIRA 18:9)

1. Vsesoyuznyy institut radioelektroniki i gornoy elektromekhaniki (for Kurochkin). 2. Tsentral'nyy nauchno-issledovatel'skiy i proyektno-[illegible] institut podzemnogo shakhtnogo stroitel'stva, Moskva (for [illegible]).

SHMIDT, R.K.

PHASE I BOOK EXPLOITATION SOV/4795

Akademiya nauk Latviyskoy SSR. Institut energetiki i elektrotekhniki

Sistemy elektrosnabzheniya transportnykh sredstv, 3 (Electrical Supply Systems for Means of Transportation, 3) Riga, 1960. 224 p. (Series: Its: Trudy, 9) Errata slip inserted. 1,000 copies printed.

Editorial Board: K.Ya. Yakubaytis (Resp. Ed.) Candidate of Technical Sciences; V.V. Apsit, Candidate of Technical Sciences; A.F. Krogeris, Candidate of Technical Sciences; Ed.: Ye. Savel'yeva; Tech. Ed.: Ya.Pangkis.

PURPOSE: This collection of articles is intended for technical personnel concerned with electrical supply systems for means of transportation.

COVERAGE: This collection is the third in a series of works of the Institute of Power and Electrical Engineering, Academy of Sciences Latviyskaya SSR, which deal with problems connected with the electrical supply systems for transportation. Many of the articles deal with electric generators of electric power-supply systems for railroad passenger cars, with emphasis placed on the design of a synchronous generator with a built-in power rectifier. Other articles are concerned with the analog simulation of magnetic amplifiers, the investigation of transient processes in automatic regulation circuits, and the application of saturable reactors in transformer substations. References accompany most of the articles.

In view of the large number of types of rectifiers and their connections, determination of their estimated performance would necessarily involve a large number of experiments whose results would be difficult to utilize in practice. The author proposes to divide the problem of determining the characteristics of an amplifier into two stages, in order first to determine the estimated performance of an ideal rectifier, and secondly to take into account the effect of rectifier resistance. It is shown that, during amplifier operation at an active load, the principles of design and the determination of universal performance are the same for amplifiers operating through an ideal rectifier and for amplifiers with a-c outputs. The author discusses some general characteristics common to all magnetic amplifiers, e.g., the current gain factor, the power factor, the power gain factor, and the volume of steel and copper. The author concludes that the universal curves obtained are valuable for determining various characteristics of amplifiers operating with active loads, and thus for carrying out a qualitative analysis of an amplifier in regard to its common parameters. The latter are helpful in evaluating how the load characteristic of an amplifier is affected by structural changes. There are 4 references, all Soviet.

GLUKHOV, V.P., kand.tekhn.nauk; SHMIDT, R.K., kand.tekhn.nauk

Choice of the parameters of a compounded controller for generators with variable angular velocity. Vest. elektroprom. 33 no.11:50-55 N '62. (MIRA 15:11)

(Electric generators)

SHMIDT, R. K., inzh.

For a smooth run of collective farm motor vehicles. Mekh. sil'. hosp. 14 no.2:31 F '63. (MIRA 16:4)

1. Kolkhoz "Zorya komunismu", Berdyanskogo rayona, Zaporozhskoy obl.

(Ukraine—Motor vehicles—Maintenance and repair)

GLUKHOV, V.P., kand. tekhn. nauk; SHMIDT, R.K., kand. tekhn. nauk

Physical modeling and methods for calculating a ferro-resonant network. Vest. elektroprom. 34 no.3:64-67 Mr '63. (MIRA 16:8)

(Electric networks) (Magnetic circuits)

SHMIDT, S.P., entomofitopatolog

Late fall sowing of spring wheat as a means of controlling loose smut. Zashch. rast. ot vred. i bol. 5 no.9:22-23 S '60. (MIRA 15:6)

1. Shortandinskiy gosuderstvennyy sortoispytatel'nyy uchastok Akmolinskoy oblasti, Gulyay-Pole.
(Kazakhstan--Smuts)
(Wheat--Diseases and pests)

SHMIDT, S.P.

Swedish fly in the Virgin Territory. Zashch.rast.ot vred.i bol. 7 no.5:28 My '62. (MIRA 15:11)
(Virgin Territory--Frit flies--Extermination)

PA 41T99

SHMIDT, T.

USSR/Nuclear Physics - Isotopes Jan 1948
Nuclear Physics - Bromine - Isotopes

"Nuclear Quadruple Moment of Bromine," T. Shmidt, ½ p

"Zhur Eksper i Teoret Fiz" Vol XVIII, No 1

Discusses recent research by Townes, Holden, Bardeen and Merritt on the spectrum of absorption of molecules BrCN and ClCN having a wave length of about 1 cm, which showed that both nuclei of a Bromine isotope have a positive quadruple moment.

[redacted]

41T99

SHMIDT, T.A.; KARSUN, Ye.A.

Strongyliasis in Odessa Province. Med.paraz. i paraz.bol.supplement to no.1:74 '57. (MIRA 11:1)

1. Iz kliniki infektsionnykh bolezney Odess ogo meditsinskogo instituta i parazitologicheskogo otdeleniya Odesskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(ODESSA PROVINCE--NEMATODA)

SHMIDT, V.

Name: SHMIDT, V.

Dissertation: Some questions on the solvability of the generalized Riemann-Gilbert problem

Degree: Cand Phys-Math Sci

~~Defended at~~ Publication: Moscow Order of Lenin and Order of Labor Red Banner State U imeni M. V. Lomonosov, Mechanicomathematical Faculty

~~Defense~~ Date, Place: 1956, Moscow

Source: Knizhnaya Letopis', No 47, 1956

20-119-5-14/59

AUTHOR: Shmidt, V.

TITLE: Generalized Problem of Riemann Hilbert in the Case of a Negative Index (Obobshchennaya zadacha Rimana-Gil'berta v sluchaye otritsatel'nogo indeksa)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol 119, Nr 5, pp 893-895 (USSR)

ABSTRACT: In the unit circle T a solution of

(1) $$\frac{\partial U}{\partial z} - A\overline{U} = 0$$

was sought which on the boundary Γ of T satisfies the boundary condition

(2) $$\mathrm{Re}\left[t^{-n}U(t)\right] = \gamma(t).$$

Here let $n < 0$.
The author considers the function $V(z) = z^{-n}U(z)$ and for it he obtains a Riemann-Hilbert-problem with the index zero which is always solvable according to Vekua [Ref 1]. Then the solution of (1)-(2) is $U(z) = z^{n}V(z)$. So the author obtains conditions for the existence and uniqueness of the solutions of the homogeneous ($\gamma \equiv 0$) and the inhomogeneous ($\gamma \not\equiv 0$) problem (1)-(2), respectively, for $n < 0$.
There are 2 Soviet references

Card 1/2

SHMIDT, V., inzh.

Using circulating pumps in feeding hot-water heating systems. (MIRA 13:2)
Zhil.-kom.khoz. 9 no.10:18-19 '59.
(Hot-water heating) (Pumping machinery)

ORLOV, Yevgeniy Sergeyevich; SHMIDT, V.A., kapitan dal'nego plavaniya, red.; IVANOV, K.A., red.izd-va; TIKHONOVA, Ye.A., tekhn.red.

[Seamanship for sailors] Morskaia praktika dlia matrosov. Moskva, Izd-vo "Morskoi transport," 1958. 139 p. (MIRA 12:2)
(Seamanship)

SHMIDT, V.A.

Change of practices in planning heating systems is an urgent problem. Vod.i san.tekh. no.1:6-9 Ja '60. (MIRA 13:4)
(Heating)

USSR/Chemical Technology. Chemical Products and their Application. J-12
Glass. Ceramics. Construction Materials.

Abs Jour: Referat Zh.-Kh., No 8, 1957, 27788.

Author : L.M. Blyumen, V.A. Shmidt.
Inst :
Title : Behavior of Concrete under Conditions of Arid Hot Climate.

Orig Pub: Sb. nauch. rabot po khimii i tekhnol. silikatov M., Promstroyizdat, 1956, 186-197.

Abstract: The technique of laying concrete mixes under the specific conditions of the arid and hot climate of Central Asia was studied. The favorable influence of surface-active substances on the mobility of the concrete mix was established. The use of soapnaphtha for this purpose is not recommended, because it noticeably decreases the strength of mixes. The most efficient additions increasing the strength of concrete (C) 7 to 14 days old are sulfite-alcohol vinasse and calcium chloride; an addition of bentonite

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Card : 1/2

SHMIDT, V.A.

Mechanical strength of concretes based on Portland cements hardening in a dry hot climate. Trudy Inst. antiseism. stroi. AN Turk. SSR 3:52-111 '58. (MIRA 13:10)

(Turkmenistan--Concrete)

SHMIDT, V.A.

Producing keramzit gravel from local clays with a high gypsum content. Trudy Inst. antiseism. stroi. AN Turk. SSR 3:235-268 '58. (MIRA 13:10)

(Aggregates (Building materials))

SHMIDT, V.A.; IVANCHIKOV, N.A.

Resistance of coarsely porous concrete to the force of impact. Izv.AN Turk.SSR.Ser.fiz.-tekh., khim.i geol.nauk no.3:48-52 '61. (MIRA 14:7)

1. Institut antiseysmicheskogo stroitel'stva AN Turkmenskoy SSR.
(Concrete--Testing)

SHMIDT, V.A.

Increasing the temperature drop of the heat transfer medium in hot water heating systems. Sbor. nauch. rab. AKKH no.9:138-151 '61. (MIRA 16:1)

(Hot-water heating)

[redacted], V.A.

Single-pipe system of hot-water heating with low setting of mains for increased heat transmission of heat carriers. Nov. tekh. zhil.-kom. khoz.:Zhil. khoz. no.2:61-71 '63. (MIRA 18:6)

SHMIDT, V. E.

PA 43/49T7

USSR/Agriculture - Reforestation Jul/Aug 48

"Reforestation by Dense Cultivation," Prof V. E. Shmidt, Siberian For Eng Inst, Krasnoyarsk, 4 pp

"Agrobiologiya" No 4

Favors clump method of planting various trees and bushes in present plan for reforestation of USSR. Gives advantages of this method over single-tree method of planting. Claims that clump method should have been started 5 years ago. Basic plan consists of planting 100 - 200 seeds or saplings in a 1.0 x 1.0 meter area. Each hectare should contain 400 - 800 of these squares.

43/49T7

USSR/Forestry - Forest Cultivation. K-5

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39110

Author : Shmidt, V.E.

Inst : Siberian Silvicultural Institute.

Title : Summer Forest Planting.

Orig Pub : Tr. Sibirsk. lesotekhn. in-ta, 1956, sb. 12, 1-12.

Abstract : The possibility of achieving effective summer forest planting by using seedlings, which underwent a preliminary implantation, was studied.
It was found that the success of the implanting of the seedling does not depend on the season of the planting but on the period of implantation. The planting with freshly dug out pine seedlings in the Boyarskiy study-experiment leskhoz gave satisfactory results only when it took place place in the early spring or early fall.

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USSR/Forestry - Forest Cultivation. K-5

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39110

Failure was 100% during a summer planting. Seedlings, which were subjected to preliminary implantation for three weeks, took root well during a summer planting; seedlings which were subjected to preliminary implantation for only 1-2 weeks did not take root as well. Seedlings of pine, larch, Siberian acacia and spruce trees which went through a preliminary implantation for one month in the study-experiment leskhoz of the Siberian lesotekhnicheskiy in-t took root fully. Agronomical-technical recommendations are given in this study.

Card 2/2

SHMIDT, Val'ter Eduardovich

[Cultivation practices for forest plantations] Agroteckhnika vyrashchivaniia lesnykh kul'tur. Moskva, Goslesbumizdat, 1958. 129 p. (MIRA 12:6)
(Forests and forestry)

ABRAMOV, Konstantin Konstantinovich; BUKHGEYM, Lev Ernestovich; MAL'SHEV, Aleksandr Ivanovich; SHMIDT, Viktor Isaakovich; SHUMILIN, Nikolay Pavlovich; MEL'NIKOV, P.V., otv. red.; KOMAROVA, Ye.V., red.

[Special measurements in wire communication] Spetsial'nye izmereniia v provodnoi sviazi. [By] K.K.Abramov i dr. Moskva, Sviaz', 1965. 231 p. (MIRA 18:5)

L 56510-65 EWT(d)/EED-2/EWP(1) Pq-4/Pg-4/Pk-4/Pl-4 IJP(c) BB/GG

ACCESSION NR: AP5016773 UR/0286/65/000/010/0087/0088 44
681.142.621 43
B

AUTHOR: Grushvitskiy, R. I.; Smirnov, N. A.; Smolov, V. B.; Shmidt, V. K.; Fomichev, V. S.

TITLE. A precision voltage-to-code converter. 16 Class 42, No. 171182

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 10, 1965, 87-88

TOPIC TAGS: voltage to code converter, computer component, computer technology, voltage divider

ABSTRACT: This Author's Certificate introduces a precision voltage-to-code converter constructed according to the method of sequential comparison with a single standard, subtraction, multiplication by two, and storage of the result. Conversion accuracy is improved by making the storage circuit in the form of two digital counting systems with balancing by digital places. The weight of each least significant digit in the counting systems is greater than the weight of the steps of the preceding least significant digit. The output of one of the counting systems is connected through a pulsed voltage divider to two comparison circuits for voltage

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ACCESSION NR: AP5016773

multiplication. The input voltage is fed to the second input of one comparison circuit while the second input of the other comparison circuit is connected to the output of the second digital counting system. This output is connected to the first input of a third comparison circuit, and to a fourth and fifth comparison circuit through a standard source for subtraction of the reference voltage. The second input of the third comparison circuit is connected to the output of the first counting system. The second input of the fourth and fifth comparison circuits are connected respectively to the input voltage and to the output of the first digital counting system.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova (Lenina) (Leningrad Electrical Engineering Institute)

SUBMITTED: 16Dec63 ENCL: 01 SUB CODE: DP

NO REF SOV: 000 OTHER: 000

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L 56510-65

ACCESSION NR: AP5016773

ENCLOSURE: 01

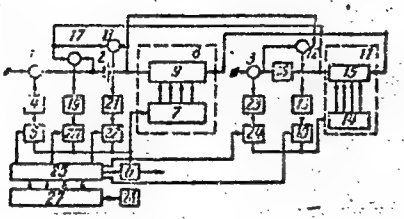

Fig. 1. 1, 3, 12, 17 and 18--comparison circuits; 2--standard source; 4, 13, 19, 21 and 23--amplifiers; 5, 6, 10, 20, 22 and 24 --logic circuits; 7 and 14--control circuits for the digital counting systems; 8 and 11--digital counting systems; 9 and 15--code-to-voltage converters; 16--pulsed voltage divider; 25--control unit; 26--pulse generator; 27--synchronization unit

Card 3/3

MANYAKIN, N. A.; [illegible], V. M.

[illegible] years of the study of the flora in Pskov Province. Vest. (MIRA 17:7)
[illegible] 19 no.9[illegible]36 '64.

MIRYAYEV, N.A.; SHMIDT, V.M.

Sixth year of the floristic research in Pskov Province. Vest. LGU 20 no.3:159-160 '65. (MIRA 18:2)

BERMAN, I.V.,; KALASHNIKOV, A.G., professor, redaktor; SHMIDT, V.O., redaktor; SHAPOSHNIKOVA, A.A., redaktor; TYSHKEVICH, Z.V., tekhnicheskiy redaktor.

[Study of automobiles and tractors; extra curricular assignments and work outside of school] Izuchenie avtomobilia i traktora; vo vneklassnoi i vneshkol'noi rabote. Pod red. A.G.Kalashnikova. Moskva, Izd-vo Akademii pedagogicheskikh nauk RSFSR, 1955. 57 p. illus. (MLRA 8:11)

1. Deystvitel'nyy chlen APN RSFSR (for Kalashnikov).
(Automobiles--Handbooks, manuals, etc.)
(Tractors--Handbooks, manuals, etc.)

SHMIDT, V. S.

Shmidt, V. S.

"Investigation of the load conditions of the steering gear of an automobile." Min Higher Education USSR. Moscow Automotive Mechanics Inst. Chair of "Automotive Construction." Moscow, 1956. (dissertation for the Degree of Candidate in Technical Sciences).

Knizhnaya Letopis'
No. 24, 1956. Moscow

DOLMATOVSKIY, Yuriy Aronovich; KRIZE, S.N., kand.tekhn.nauk, retsenzent; SHMIDT, V.O., kand.tekhn.nauk, red.; MAKHIMSON, V.A., red.izd-va; EL'KIND, V.D., tekhn.red.

[Automobiles in motion] Avtomobil' v dvizhenii. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. (MIRA 11:1)
(Automobiles)

ISAYEV, Aleksandr Sergeyevich; SHMIDT, V.O., kandidat tekhnicheskikh nauk, retsenzent; KHOL'FAN, Yu.A., inzhener, redaktor; UVAROVA, A.F., tekhnicheskiy redaktor

[Learn about automobiles] Izuchaite avtomobil'. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1957. 339 p.
(Automobiles) (MLRA 10:6)

SHMIDT, V.M.

Biological significance of polymodal curves of some plant characters.
Vest.LGU 16 no.9:36-45 '61. (MIRA 14:5)
(Biometry) (Botany—Variation)

MINYAYEV, N.A.; SHMIDT, V.M.

Investigation of the flora of Pskov Province. Vest.LGU 16 no.9: 151-159 '61. (MIRA 14:5)
(Pskov Province—Botanical research)

SHMIDT, V.M.

Biometric investigation of the systematic relationships of species and forms of Odontites Zinn in the northwestern U.S.S.R. Vest. LGU 17 no.3:32-44 '62. (MIRA 15:2)
(Russia, Northwestern--Figwort)

MINYAYEV, N.A.; SHMIDT, V.M.

Continuation of the investigation of the flora of Pskov Province.
Vest. LGU 17 no.9:156-157 '62. (MIRA 15:5)
(Pskov Province--Botany)

SHMIDT, V.M.

E.S.Smirnov's method of taxonomic analysis and some possibilities for its application in botany. Bot.zhur. 47 no.11:1648-1654 N '62. (MIRA 16:1)

1. Leningradskiy gosudarstvennyy universitet.
(Botanical research) (Biometry)

SHMIDT, V.M.

Correlative structure of the characters of some species and forms of Odontites Zinn. (family Scrophulariaceae). Prim. mat. metod. v biol. no.2:81-89 '63. (MIRA 16:11)

SHMIDT, V.M.; VARGINA, N.Ye.

Flora of limestone outcrops of the right bank of the Velikaya River near Pskov. Vest. LGU 18 no.21:38-48 '63 (MIRA 16:12)

SHMIDT, V.M.

Biometric method in plant taxonomy. Bot. zhur. 49 no.1:85-93 Ja '64. (MIRA 17:2)

1. Leningradskiy gosudarstvennyy universitet.

BORKHVARDT, V.S.; DROZDOVA, I.N.; ZAKHAREVICH, S.F.; KOZLOVSKAYA, N.V.; MARKOVSKAYA, L.A.[deceased]; MINYAYEV, N.A.; MURAV'YEVA, O.A.; SERGIYEVSKAYA, Ye.V.; SOKOLOVSKAYA, A.P.; STANISHCHEVA, O.N.; TAKHTADZHYAN, A.L.; FLOROVSKAYA, Ye.F.; TSVELEV, N.N.; SHISHKIN, B.K., prof.[deceased]; SHMIDT, V.M.; DUBROVSKAYA, I.P., red.

[Flora of Leningrad Province] Flora Leningradskoi oblasti. Leningrad. No.4. 1965. 356 p. (MIRA 18:9)

1. Leningrad. Universitet. 2. Chlen-korrespondent AN SSSR (for Shishkin).

NIKOL'SKIY, V.D.; SHMIDT, V.S.

Extraction of ruthenium from nitric acid solutions by organic solvents. Report No.1. Zhur. neorg. khim. 2 no.12:2746-2751 D '57. (MIRA 11:2)

(Ruthenium) (Nitric acid)

ZVYAGINTSEV, O. E., NIKOLSKIY, V. D., STAROSTIN, S. M., KURBANOV, A. and SHMIDT, V. S.

"Chemistry of Radioruthenium."

paper to be presented at 2nd UN Intl. Conf. on the preaceful uses of Atomic Energy, 1 - 13 Sept .

SMIDT, V.S., Cand Chem Sci--(diss) "Study of the extraction of [illegible] polymeric [illegible] titanic acid solutions." Len, 1958. 11 pp (Len Sci Res Inst of Gen and Inorg Chem of the U.S. Emb.kov), 200 copies (KL, 23-58, 102)

AUTHORS: Nikol'skiy, V. D., Shmidt, V. S. SOV/78-3-11-8/23

TITLE: Investigation of the Extraction of Nitroso-Trinitrate Ruthenium With Tributyl Phosphate (Issledovaniye ekstraktsii nitrozotrinitrata ruteniya tributilfosfatom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2467 - 2471 (USSR)

ABSTRACT: The distribution coefficient of nitroso-trinitrate ruthenium was determined in the case of its extraction with tributyl phosphate. The distribution coefficient of $RuNo(No_3)_3(H_2O)_2$ for the system nitric acid solution-tributyl phosphate depends on various factors. Radioactive ruthenium Ru^{106} was used for the work. The dependence of the distribution coefficient of nitroso trinitrate ruthenium was investigated for the system nitric acid solution- solution of tributyl phosphate in kerosene in dependence on the tributyl phosphate concentration. The distribution coefficient of ruthenium is reduced in consequence of the displacement of the nitric acid from the organic phase with an increase in acidity of the

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aqueous phase. A molecular compound of nitroso-trinitrate ruthenium with 2 molecules tributyl phosphate, which correpsonds to the reaction Ru NO $(NO_3)_3(H_2O)_2$ + + 2 T.B.P. $\rightarrow$ Ru NO $(NO_3)_3 \cdot (T.B.P.)_2 \cdot 2\ H_2O$, is produced in the extraction. This complex is completely soluble in the organic phase. There are 2 figures and 3 references, 2 of which are Soviet.

SUBMITTED: August 3, 1957

5(3) SOV/89-7-3-6/29

AUTHORS: Shevchenko, V. B., Slepchenko, I. G., Shmidt, V. S., Nenarokomov, E. A.

TITLE: Extraction Properties of Di-isoamyl Esther of Methyl Phosphoric Acid

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 3, pp 236-243 (USSR)

ABSTRACT: By hitherto known methods the distribution coefficients of HNO_3 and uranyl nitrate in solutions of nitric acid and solutions of DAMPA (di-isoamyl esther of methyl-phosphoric acid) in petroleum were determined on the basis of the DAMPA-content in the extractive and on the $UO_2(NO_3)_2$ and HNO_3-content in the aqueous phase. It could be shown that, especially in the aqueous phase, small uranium concentrations can be extracted with DAMPA considerably better than with TBP (tributyl phosphate). The extraction mechanism develops according to the equation

$$H^+ + NO_3^- + DAMPA \rightleftarrows HNO_3 DAMPA \quad (1)$$

where HNO_3DAMPA is a compound extracted entirely from the organic phase. The rules governing the extraction of uranium from solutions containing nitric acid by DAMPA-solutions may be

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Extraction Properties of Di-isoamyl Esther of Methyl Phosphoric Acid

explained by the following extraction equation:

$$UO_2^{2} + 2NO_3^{-} + 2DAMPA \rightleftarrows \left[UO_2(NO_3)_2\ (DAMPA)_2\right] \quad (2)$$

where $\left[UO_2(NO_3)_2\ (DAMPA)_2\right]$ is a compound extracted entirely from the organic phase. The equilibrium constant of reaction (1) by using 10- and 20% DAMPA-solutions is 0.30 ± 0.03 (measured value). The equilibrium constant of reaction (2) with a 20% DAMPA-solution, however, is 2540 ± 200. The values determined during the various experimental stages are represented partly by tables and partly graphically. There are 10 figures, 5 tables, and 20 references, 14 of which are Soviet.

SUBMITTED: December 11, 1958

Card 2/2

SHEVCHENKO, V.B.; SLEPCHENKO, I.G.; SHMIDT, V.S.; MENAROKOMOV, E.A.

Mechanism of extraction of uranium (VI) with tributyl phosphate from hydrochloric acid solutions. Zhur.neorg.khim. 5 no.5: 1095-1099 My '60. (MIRA 13:7)
(Uranium) (Butyl phosphate)
(Extraction(Chemistry))

SHEVCHENKO, V.B.; SHMIDT, V.S.; NENAROKOMOV, E.A.; PETROV, K.A.

Extraction of nitric acid with tri-n-octylamine. Zhur. neorg. khim. 5 no.8:1852-1856 Ag '60. (MIRA 13:9)
(Nitric acid) (Octylamine)

SHEVCHENKO, V.B.; SHMIDT, V.S.; MEZHOV, E.A.

Extraction of plutonium with tri-n-octylamine from hydrochloric acid solutions. Zhur. neorg. khim. 5 no.8:1911-1913 Ag '60.
(MIRA 13:9)

(Plutonium) (Octylamine)

84219
S/078/60/005/010/019/021
B004/B067

21.3200

AUTHORS: Shevchenko, V. B., Shmidt, V. S., Nenarokomov, E. A.

TITLE: Extraction of Uranium(VI) by Means of Tri-n-octylamine From Nitric Solutions

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 10, pp. 2354-2362

TEXT: The authors wanted to make a detailed study of the extraction of U(VI) by means of solutions of tri-n-octylamine (TOA) in o-xylene and carbon tetrachloride. In an earlier paper (Ref. 10), it had been found that in the presence of free nitric acid the entire TOA is contained in the organic phase as $TOA \cdot HNO_3$. Therefore, the authors write down the following equation for the extraction of uranium:

$TOA.HNO_{3\ org} + UO_{2\ aqu}^{2+} + 2NO_{3\ aqu}^{-} \rightleftharpoons (TOA.H)UO_2(NO_3)_{3\ org}$ (1). The dependence of the distribution coefficients on the concentration of free $TOA.HNO_3$ in the organic phase was studied at concentrations of 4.3 and

5.4 mole/l HNO_3 in the aqueous phase. In this connection the fact that, according to Ref. 10, the concentration of $TOA.HNO_3$ varies in the organic phase as a result of the reaction

$H^+_{aqu} + NO_3^-{}_{aqu} + TOA.HNO_3{}_{org} \rightleftharpoons [TOA.HNO_3].HNO_3$ (5), was taken into account. By using o-xylene as solvent the constant K_3 of this reaction was found to be 0.13. Table 1 gives the values for the distribution coefficient α. Fig. 1 shows that with $K_3 = 0.13$ the distribution coefficient α increases linearly with the concentration of $TOA.HNO_3$. At 4.3 mole/l $HNO_3{}_{aqu}$ and 0.470 mole/l $TOA.HNO_3$, α is 1.81, at 5.4 mole/l HNO_3 it is 2.50. Fig. 2 shows α as a function of acidity of the aqueous phase. α passes a maximum at 6 - 7 mole/l HNO_3. The decrease of α with higher acid concentrations is explained by the formation of $(TOA.HNO_3).HNO_3$ and by the occurrence of $UO_2(NO_3)_3^-$ ions. In Fig. 3 α is represented as a function of $[H^+]$, in Fig. 4 as a function of the uranium concentration. o-xylene and carbon tetrachloride served as solvents. With very low uranium concentration in the aqueous phase α is almost independent

Extraction of Uranium(VI) by Means of Tri-n-octylamine From Nitric Solutions

of the concentration. It is concluded therefrom that no polymerization occurs. With high uranium concentrations α decreases. This is explained by the reduction of concentration of free $TOA.HNO_3$ as a result of the extraction process. In Fig. 5 the equilibrium distribution of uranium between aqueous and organic phase is shown at 0.47 mole/l $TOA.HNO_3$, dissolved in $o\text{-}C_6H_4(CH_3)_2$ or CCl_4. Table 2 gives the dependence of α on the concentration of uranium in the aqueous phase and the values for the stability constant K_1 of the complex $(TOA.H)UO_2(NO_3)_3$. These values were sufficiently constant only at uranium concentrations in the organic phase up to 0.10 mole/l. They amounted to 2.02±0.12 for 0.47 mole/l $TOA.HNO_3$ in CCl_4 and 2.88±0.11 in $o\text{-}C_6H_4(CH_3)_2$. The absorption spectrum recorded by a CΦ-2M (SF-2M) recording spectrophotometer of the organic uranium solutions in TOA is shown in Fig. 6. It considerably differs from the spectrum of uranyl nitrate, it is similar, however, to the absorption spectra of the trinitrate uranyl compounds. The optical density of $UO_2(NO_3)_2$ solutions in methylisobutylketone was measured at different

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Extraction of Uranium(VI) by Means of Tri-n-octylamine From Nitric Solutions

S/078/60/005/010/019/021
B004/B067

concentrations of $TOA.HNO_3$ (Fig. 7). The optical density attained a maximum at a ratio $UO_2(NO_3)_2$: $TOA.HNO_3$ = 1 : 1 which was also confirmed by the composition $(TOA.H)UO_2(NO_3)_3$. The authors mention a paper by V. M. Vdovenko, A. A. Lipovskiy, and M. G. Kuzina (Ref. 11). They thank L. V. Lipis for having carried out the spectrophotometric studies. There are 7 figures, 2 tables, and 19 references: 6 Soviet, 6 US, 1 British, 2 French, and 1 German.

SUBMITTED: July 6, 1959

Card 4/4

S/186/61/003/002/001/018
E037/E419

21.3200

AUTHORS: Shevchenko, V.B. and Shmidt, V.S.

TITLE: Extraction of ruthenium and other fission products with tri-n-octylamine (TOA) from nitric acid solutions

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.2, pp.121-128

TEXT: The distribution coefficients of the most important radioactive fission products have been studied for extraction with TOA from nitric acid solutions. Results (determined as the ratio of β- or γ-activi es of equal volumes of organic and aqueous phases) of exper: nts using Ca^{137}, Sr^{90}, Ce^{144}, Zr^{95} + Nb^{95}, and Ru^{106} tracers ar hown in Table 1, from which it can be seen that only Ru is readi extracted. The fact that elements with ions which have the gi atest tendency to form nitrate complexes are best extracted with TOA.HNO_3 is illustrated by Table 2 and is explained by the TOA.HNO_3 being bound to the central atom of the extractable compound through the NO_3^- group of the TOA.HNO_3. Ruthenium has a great tendency to associate with nitrate ions and consideration of the properties of the various ruthenium nitrosyl complexes explains the fact that ruthenium is appreciably extracted

with $TOA.HNO_3$ from $RuNO^{3+}$ solutions (Table 1). Slow hydrolysis in aqueous nitric acid solutions yields a mixture of ruthenium nitrosonitrates, the equilibrium proportions of the individual compounds being determined by the HNO_3 concentration (Ref.21: O.Ye.Zvyagintsev, V.D.Nikol'skiy, S.M.Starostin, A.Kurbanov, V.S.Shmidt, Khimiya radioelementov i radiatsionnykh prevrashcheniy, 336. M. (1959). Ref.22: G.Rudstam, Acta Chem. Scand., 13, 1481 (1959). Ref.23: V.D.Nikol'skiy, V.S.Shmidt, ZhNKh, 2, 2746 (1957). Ref.24: V.D.Nikol'skiy, V.S.Shmidt, ZhNKh, 3, 2476 (1958). Ref.25: V.S.Shmidt, Thesis, IONKh, M. (1958). Ref.26: A.Jenkins, A. Wain, J.Inorg.Nucl.Chem., 3, 28 (1956)). Preliminary $TOA.HNO_3$ extraction studies showed that 6 hours were sufficient to establish complete equilibrium. Ruthenium distribution coefficients E measured for complete equilibrium in the solution of nitrosonitrates do not reflect the extraction behaviour of the most readily extractable forms of Ru (Fig.1). This figure also illustrates the extraction behaviour for non-equilibrium conditions in the aqueous phase; it can be seen that the distribution coefficients are highest for low acidities and decrease rapidly with increasing HNO_3 concentration in the aqueous phase.

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E057/E419

Extraction of ruthenium ...

Non-equilibrium conditions were studied using freshly-prepared nitrosotrinitrate solutions for short contact times. Fig.2 illustrates Ru distribution coefficients for re-extraction (back-extraction). The distribution coefficients vary with the duration of the re-extraction and it seems that the ruthenium distribution coefficients for $TOA.HNO_3$, as for extraction with tributylphosphate, are proportional to the distribution coefficients of the most readily extractable compounds. Fig.3 shows that the distribution coefficients of the most readily extractable Ru nitroso-compounds are proportional to the square of the $TOA.HNO_3$ concentration in the organic phase. If it is assumed that, as in the case of tributylphosphate extraction, the most readily extractable compound is $RuNO(NO_3)_3$ then it follows from the data obtained that this compound goes into the organic phase as the complex $RuNO(NO_3)_3(TOA.HNO_3)_2$. There are 3 figures, 2 tables and 27 references: 16 Soviet-bloc and 9 non-Soviet-bloc. The four most recent references to English language publications read as follows: D.A.Carswell, I.T.Lawrence, J.Inorg.Nucl.Chem., 11, 1, 69 (1959); H.A.C.McKey, J.Inorg.Nucl.Chem., 9,256 (1959);

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22991

S/106/61/003/002/001/018
E037/E419

Extraction of ruthenium ...

H.A.C.McKey, J.Inorg.Nucl.Chem., 9, 271 (1958);
H.A.C.McKey, J.Inorg.Nucl.Chem., 9, 278 (1958).

SUBMITTED: March 30, 1960

Card 4/9

22992

S/186/61/003/002/002/018
E142/E435

21,3200

AUTHORS: Shevchenko, V.B., Shmidt, V.S. and Nenarokomov, E.A.

TITLE: The extraction of U^{VI} and U^{IV} with the di-isoamyl ether of methyl phosphoric acid from HCl solutions

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.2, pp.129-136

TEXT: During the last few years di-isoamyl ether of methyl phosphoric acid (DEMPA) has been used as a satisfactory extracting agent for uranium. The authors mention briefly their previously published results on the effectiveness of the compound and on the stability of the hexavalent uranium complex, extracted with DEMPA, as compared to the stability of the complex extracted with tributyl phosphate (TBP). The present investigation deals with the reaction mechanism of extracting U^{VI} and U^{IV} with DEMPA from HCl solutions; the stability of the uranium compounds, extracted from the HCl solutions with the two aforementioned reagents is compared. Of each reagent 20% solutions, in carbon tetrachloride, were used. Details of the preparation of uranyl chloride (UO_2Cl_2) and of uranium tetrachloride (UCl_4) are given. Equal volumes of the 2 phases (10 ml each) were used for the extraction process which lasted 10 minutes; this time sufficed for attaining

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S/186/61/003/002/002/018
E142/E435

The extraction of U^{VI} and U^{IV}

equilibrium. The solution was allowed to settle for 18 hours (U^{VI}) and 1 hour (U^{IV}) respectively; thereafter the phases were separated. Each phase was analysed for its uranium content and the dispersion coefficient defined as the ratio of the concentrations of the element in the organic and in the aqueous phase. During the extraction of hexavalent uranium it was found that U^{VI} is extracted to an appreciable degree with a 20% solution of DEMPA in CCl_4 at acidities $>$ 2N HCl. The tetravalent element is extracted satisfactorily with 20% solutions of DEMPA and TBP in CCl_4 only at concentrations of HCl $>$ 4 - 5 N HCl. The complex UO_2Cl_2.2DEMPA was formed in the investigated acidity range (up to 5N HCl); tetravalent uranium forms the complexes UCl_4.2DEMPA and UCl_4.2TBP. The ratios of the stability constants were calculated for the complexes UO_2Cl_2.2DEMPA and UO_2Cl_2.2TBP (113 $\pm$ 16) and for the complexes UCl_4.2DEMPA and UCl_4.2TBP (approximately 300). There are 4 figures, 5 tables and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The 2 references to English language publications read as follows: K.Kraus, F.Nelson, J.Am.Chem.Soc., 72,3901 (1950); R.Betts, R.Leigh, Canad.J.Res., 28B,514 (1953).

SUBMITTED: April 30, 1960

Card 2/2

MEZHOV, E.A.; PUSHKOV, A.A.; SHMIDT, V.S.

Extraction of nitric acid with dioctylamine. Zhur.neorg.khim. 7 no.4:932-935 Ap '62. (MIRA 15:4)
(Nitric acid) (Octylamine)

[redacted], ... SMIRNOV, V.A.; [redacted] SMIRNOV, V.M.

Extraction of oxalic acid by tri-n-octylamine from nitric acid solutions. Trudy MKHTI no.43:12-15 '63.
(MIRA 17:10)

[illegible], V.I.; [illegible]ev, V.N.

Interaction in the systems n-octyl alcohol - [illegible]-n-octylamine and n-octyl alcohol - tri-n-octylammonium ni[illegible]. Zhur. fiz. khim. 39 no.2 [illegible] F '65. (MIRA 18:4)

SHMIDT, V.S.; MEZHOV, E.A.

Structure and extraction capacity of amines and their salts.
Usp. khim. 34 no.8:1388-1415 Ag '65. (MIRA 18:8)

L 35913-66 EWT(m)/EWP(j) RM/JW

ACC NR: AP6014897 SOURCE CODE: UR/0076/65/039/012/3007/3010

AUTHOR: Shesterikov, V. N.; Shmidt, V. S. 56 C

ORG: none

TITLE: Cryoscopic investigation of the reaction of aliphatic alcohols of different structure with tri-n-octylammonium nitrate in benzene solutions

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 12, 1965, 3007-3010

TOPIC TAGS: ammonium nitrate, aliphatic alcohol, chemical reaction, benzene, cryogenics

ABSTRACT: Chemically pure primary alcohols of normal structure were used in the investigation; their properties did not differ from those described in the literature. The tri-n-octylammonium nitrate was obtained by the reaction of equivalent amounts of 99.5% HNO_3 and tri-n-octylamine. The temperature measurements were made by the standard method. Experimental results are shown in graphic form. It was found that in the reaction of methyl, ethyl, n-butyl, n-hexyl, n-octyl, and n-decyl alcohols with tri-n-octylammonium nitrate in benzene solutions, there are formed addition compounds of the composition $(n\text{-}C_8H_{17})_3N \cdot HNO_3 \cdot 3ROH$ in the case of methyl and ethyl alcohols and

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$(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 2ROH$ in all the remaining cases. The instability constants were calculated for compounds of the composition $(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 2ROH$. The values of the instability constant at 6 ± 2°C for compounds of buryl, hexyl, octyl, and decyl alcohols were found to be, respectively, 2.89; 2.74; 2.55; and 2.38. The instability constant for the compounds $(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 3CH_3OH$ and $(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 3C_2H_5OH$ was equal respectively to 5.25 and 3.88. There was established the existence of a linear relationship between the values of the instability constant for compounds of the composition $(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 2ROH$ and the number of carbon atoms in the alkyl chains of the alcohol. Orig. art. has: 2 formulas and 3 figures.

SUB CODE: 07/ SUBM DATE: 13Nov64/ ORIG REF: 006/ OTH REF: 005

Card 2/2

USSR/Metallurgy - Invar, Anomalous Jan 53
Thermal Expansion

"Magnetostriction and Thermal Expansion of Invar Alloys Near the Curie Point," K. P. Belov, V. V. Shmidt

Zhur Tekh Fiz, Vol 23, No 1, pp 44-49

Contributes to substantiation of hypothesis on connection of anomaly of Invar thermal expansion with ferromagnetism. Using specially designed dilatometer, studies magnetostriction and thermal expansion vs temp on same specimen of alloy with 36%

270T90

Ni, 1% Mo, 63% Fe. Uses data obtained for calculating ferromagnetic portions of coeff of thermal expansion and density of Invar.

270T90

AUTHOR: Borovskiy, I.B., Shmidt, V.V. 48-10-12/20

TITLE: The Application of the URS-50-I X-Ray Unit as a Double Crystal Spectrometer (Ispol'zovaniye rentgenovskoy ustanovki URS-50-I (URS-50-I) v rezhime dvoynogo kristallspektrometra)

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1957, Vol. 21, Nr 10, pp. 1412-1414 (USSR)

ABSTRACT: Until recently no double crystal spectrometer existed in the USSR. After the construction of the URS-50-I unit it was perfectioned by the authors, so that it became possible to use it as a double crystal spectrometer. The essential bases of a two-crystal spectrometer are here described in short. Satisfactory functioning of the URS-50-I unit as a two-crystal spectrometer can be attained only by very careful adjustment. The latter consists mainly in the following: 1.) The rotation axis of the B crystal must coincide with its plane of reflection. 2.) The axis of the B crystal must coincide with the plane which is parallel to the reflecting plane of the A crystal. A special theoretical investigation of the accuracy of recordings of the two-crystal spectrometer and of the influence exercised by adjustments upon accuracy was carried out. According to W.W.Beeman and H. Friedman (Phys.Rev. 56, 392, 1939) it is

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necessary in absorption spectrum registration that at every point of the spectrum intensity be measured twice: once with and once without the absorber. Besides, a special device, by which the absorber is always returned to the same place, must be provided. This method was improved by the authors by the introduction of an additional control counter. Besides, it is proved that the entire spectrum can be recorded by means of a constantly fixed absorber. In this manner the time of recording was considerably shortened. There are 5 figures and 6 references, 2 of which are Slavic.

ASSOCIATION: Laboratory for Methods of Physical Research at the Metallurgical Institute imeni A.A.Baykov AS USSR (Laboratoriya fizicheskikh metodov issledovaniya instituta metallurgii im. A.A.Baykova Akademii nauk SSSR)

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